



Explanation of Significant Differences #2

*From the Record of Decision, Dated 9/5/97, and the
First ESD Dated 8/13/02*

*Del Amo Superfund Site
Operable Unit 2 - Waste Pits*

Introduction and Statement of Purpose

Site Name: Del Amo

Operable Unit 2 - Waste Pits

Location: Los Angeles, CA

Lead Agency: U.S. Environmental Protection Agency

Support Agency: California Department of Toxic Substances Control (DTSC)

Citation: CERCLA Section 117(c) and NCP Section 300.43five(c)(2)(i).

Circumstances Leading to the Need for an Explanation of Significant Differences (ESD):

In September 1997, the U.S. EPA Region IX signed a Record of Decision ("9/97 ROD") addressing the waste, soil, and subsurface gas contaminated with hazardous substances at the Del Amo Waste Pits Area. The ROD addressed potential human exposure to waste pit contaminants at or near the ground surface. The remedy also selected measures to prevent continued migration of hazardous substances from the waste pits and surrounding soil to the groundwater. The remedy, including a RCRA-equivalent cap and a soil vapor extraction ("SVE") system, is described in more detail in the following sections. This ESD pertains to the SVE component of the selected remedy.

SVE is a technology that extracts vapors from the ground using wells and air pumps. The extracted vapors are typically treated to remove the contaminants before being vented to the atmosphere. The ROD selected SVE as a component of the remedy, and stated that it would take an estimated five years of operation before the system attained the clean-up goals. The ROD did not specify which method of vapor treatment would be used but it did identify Applicable or Relevant and Appropriate Requirements (ARARs) for thermal or catalytic oxidation. However, during the Remedial Design process, the community requested that EPA examine means of vapor treatment other than thermal for the SVE system at the Waste Pits Area.

EPA worked with the Responsible Parties ("Respondents"), other agencies, and members of the public to examine a range of vapor treatment options. As a result, a treatment system that would use an adsorption technology (resin), with on-site regeneration and off-site reuse of benzene was settled on. In 2002, ESD #1 was prepared to evaluate ARARs for the adsorption, regeneration and reuse components of the SVE system. Following ESD #1, pilot studies were conducted on these components. The pilot studies indicated that benzene reuse was not feasible. The Respondents then proposed a treatment system that would use carbon adsorption with an in-situ bioventing component. Using this approach, the estimated timeframe for reaching clean-up goals increases from five years to approximately 10 to 15 years. The purpose of ESD #2 is to explain the difference in timeframes.

ESD #2 will become part of the Administrative Record file for the Del Amo site, as specified in the National Contingency Plan (“NCP”) 40 C.F.R. Section 300.825 (a)(2). The Administrative Record file is available for public review at the following locations:

Torrance Civic Center Library
3301 Torrance Boulevard
Torrance, CA
(310) 618-five9five9

Carson Public Library
1five1 East Carson Street
Carson, CA
(310) 830-0901

U.S. EPA
Superfund Records Center
95 Hawthorne Street, Suite 403S
San Francisco, CA
(415) 536-2000

For hours of operation, interested parties may call the libraries at the numbers listed above.

Site History, Contamination, and Selected Remedy

The Del Amo Facility was a 280-acre synthetic rubber manufacturing plant that operated from 1943 to 1972. At the southern edge of the facility, a five-acre set of six waste disposal pits and four evaporation ponds, known as the Waste Pits Area, was created. The 9/97 ROD and the 2002 ESD pertain only to the Waste Pits Area of the Del Amo Site, as does this ESD.

The Remedial Investigation of the Waste Pits Area revealed that one of the evaporation ponds does not have any residual contamination. However, the six pits and three remaining ponds all were found to contain significant quantities of contaminated material. In addition, the soil and groundwater beneath the waste pits material remains heavily contaminated. The majority of the contamination found in and beneath the waste pits and ponds consists of volatile organic compounds (“VOCs”) and semi-volatile organic compounds (“SVOCs”). The most significant VOC present is benzene, and the most significant SVOC present is naphthalene. Hydrogen Sulfide is also present. It was determined that contamination from the waste pits and ponds migrates downward and has contaminated the underlying groundwater and that contamination from the pits and ponds diffuses upward towards the ground surface.

The 9/97 ROD selected the following actions for the Waste Pits Area remedy:

- Placement of a RCRA-equivalent cap over the waste pits area and associated soil gas monitoring;
- Installation of surface water controls to prevent ponding of water on the cap and to prevent runoff onto adjacent properties;
- Installation and operation of a soil vapor extraction system (SVE) beneath the Waste Pits Area to protect groundwater and prevent lateral movement of underground gasses;
- Installation of security fencing around the treatment units;

- Implementation of deed restrictions prohibiting future residential use of the Waste Pits Area and prohibiting any future use that could threaten the integrity of the RCRA-equivalent cap; and
- Long-term operation and maintenance of all of the above and related components.

In 1999, the Waste Pits Area was covered with the RCRA-equivalent cap and the SVE extraction wells were installed.

As discussed previously, in 2002, EPA issued ESD #1, identifying additional ARARs for the adsorption, on-site regeneration and off-site reuse of benzene. However, pilot studies indicated that re-use of the benzene was not feasible. Therefore, the Respondents proposed a system that would utilize enhanced in-situ biodegradation of contamination, in addition to extraction and carbon adsorption. In September 2005, EPA approved the final SVE system Remedial Design for this approach.

Basis for the Document

The in-situ bioremediation (bioventing) component of the SVE system will take longer to reach cleanup than the system envisioned by the ROD. The ROD estimated that the SVE system would operate for five years before clean-up goals were attained. The new system will require operation for approximately 10 to 15 years before clean-up goals are attained. The additional timeframe is needed to take advantage of the more slowly occurring natural biological degradation of contaminants.

Description of Significant Differences

Because the SVE system will use the enhanced in-situ biodegradation processes to destroy a large portion of the contamination, the overall clean-up will take longer than if vapors are extracted at a higher rate and all treated above-ground. The system is designed to re-oxygenate and re-inject 75% of the extracted vapors back into the subsurface, in order to use the in-situ biodegradation process to destroy more of the contaminants. The remaining 25% of the extracted vapors are treated above-ground with a carbon filter before release to the atmosphere. The system design does provide the ability to shorten this clean-up timeframe by increasing the extraction and treatment rate for the subsurface vapors.

The ROD only specified that SVE would be utilized; it did not specify the SVE treatment system method. Therefore, this ESD #2 provides information that was not available to the public in the administrative record at the time of the 9/97 ROD and 2002 ESD.

The new Remedial Design will achieve the performance standards specified in the ROD. The amount of contamination to be treated will not change, nor will the area being treated.

No additional ARARs are required for the actions covered under this ESD.

State DTSC Comments

DTSC issued a letter to EPA dated July 19, 2006, indicating its concurrence with EPA's conclusion that no additional ARARs are required for this ESD, and in a follow-up e-mail on August 4, 2006, DTSC indicated that it concurred with the remedy in the ESD.

Statutory Determinations

The Selected Remedy attains the mandates of Section 121 of CERCLA, 42 U.S.C. Section 9621,

and to the extent practicable, the NCP. Specifically, the remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or are relevant and appropriate to the remedial action, is cost effective, and utilizes permanent solutions and resource recovery technologies to the maximum extent possible.

The remedy also satisfies the statutory preference for treatment as a principal element of the remedy (i.e., reduces the toxicity, mobility or volume of hazardous substances, pollutants, or contaminants as a principal element through treatment).

Because this remedy will result in hazardous substances, pollutants or contaminants remaining on-site above levels that allow for unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment. The first such review was conducted in 2005. Based on the Five-Year Review, the ROD remains protective and continues to meet the ARARs.

Public Participation

On February 24, 1999, the Respondents gave a presentation on the Waste Pits Area cap and SVE Remedial Design at a meeting of the Del Amo/Montrose Partnership. The Partnership was a coalition of representatives from various interested agencies and community groups who met regularly to exchange information and coordinate activities surrounding the Del Amo and Montrose Superfund sites. At the Partnership meeting, representatives from the Del Amo Action Committee (DAAC), a local community group, expressed concerns regarding the vapor treatment technology (thermal oxidation) that was being considered for the SVE system. DAAC requested that the design team investigate alternative treatment technologies for the SVE vapors. This began a comprehensive process whereby EPA, DTSC, DAAC, and other interested parties examined alternative treatment technologies. This process eventually led to both the 2002 ESD and this 2006 ESD.

The alternative treatment technology evaluation process is documented in the Administrative Record for the two ESDs (2002 and 2006). The process was one of significant public involvement, whereby technical information was gathered, shared, discussed and analyzed by members of the Partners Remediation Subgroup (including community representatives). The technologies reviewed in depth included thermal oxidation, adsorption (both carbon and resin) with onsite regeneration of adsorbent, biofiltration, and electrochemical oxidation. At the end of the alternative technologies evaluation process, EPA worked with the Respondents to conduct a pilot test of resin absorption with microwave regeneration of adsorbent, and to perform additional field sampling. The result of this additional information and evaluation was the September 2005 final SVE Remedial Design using carbon adsorption with enhanced in-situ bioventing.

The process utilized a number of different public involvement tools, as follows:

Partnership meetings and conference calls. The Del Amo/Montrose Partnership formed the Remediation Subgroup, to focus on this issue. The Remediation Subgroup consisted of representatives from EPA, DTSC, Agency for Toxic Substances and Disease Registry (ATSDR), California Department of Health Services (CaDHS), South Coast Air Quality Management District (SCAQMD), and Del Amo Action Committee (DAAC). The group held a series of meetings and conference calls and provided input on EPA's fact sheets and workshops.

Alternative Technologies Forum. During the summer and fall of 1999, EPA, DTSC and the Partnership Remediation Subgroup participated in a forum known as the Alternative Technologies Forum. The forum was organized by a coalition of community groups from around the state, and consisted of a series of meetings where participants gathered and shared information on alternative vapor treatment technologies. The forum did not focus on any particular Superfund site, but sought to learn about technologies so that each participant might then apply their knowledge to a site of interest to them, including the Del Amo Waste Pits Area.

Fact Sheets. The general public was provided with information via two fact sheets (dated November 1999 and December 1999) regarding the treatment technology evaluation process and the information gathered. A third fact sheet regarding the field pilot test was issued in May 2003. The fact sheets were also used to advertise the three public meetings. A fourth fact sheet was issued in January 2006, announcing selection of the final technology and also announcing the results of the Five-Year Review. In addition to fact sheets, EPA issued public notices in local newspapers for the 2002 ESD and the 2005 Five-Year Review. A public notice of this 2006 ESD #2 will be issued.

Public Meeting/Workshops. Two public meeting/workshops were held early in the process, one at the Holiday Inn near the neighboring community, and one in the neighborhood itself. Information about the technologies examined was provided to the attendees and public input was obtained. The first meeting was held on Monday afternoon and evening, November 22, 1999, and the second one was held Saturday morning and afternoon, January 15, 2000.

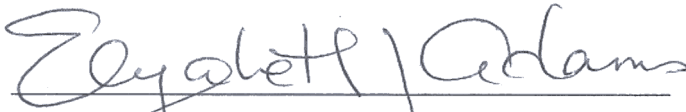
The third public meeting/open house was on May 31, 2003, at the Holiday Inn. Information about the planned field pilot test of a resin adsorption and regeneration technology was presented.

Email Updates/Ongoing Communications. EPA continued to update the interested community members on its decision making process through periodic email updates and phone calls, including post ESD #1 activities, such as post-pilot study and field work results and Remedial Design phases.

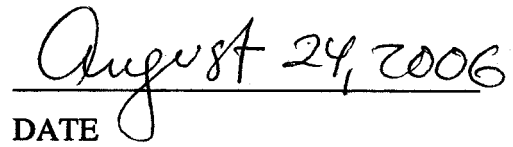
Conclusion

This Explanation of Significant Differences #2 for the Del Amo Superfund site provides new information regarding the length of time that the SVE system will need to operate before soil clean-up goals are achieved. The clean-up goals specified in the 1997 ROD remain unchanged. The new clean-up timeframe is a result of utilizing an SVE system that incorporates enhanced in-situ biodegradation in order to increase the amount of contamination that is destroyed in the subsurface, before it is extracted to the surface.

With the approving official's signature below, this ESD is hereby APPROVED as of the signature date.

A handwritten signature in cursive script, reading "Elizabeth J. Adams", written over a horizontal line.

Elizabeth J. Adams, Chief
Superfund Site Clean-up Branch
U.S. Environmental Protection Agency, Region IX

A handwritten date "August 24, 2006" written in cursive script, positioned above a horizontal line.

DATE